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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
BAUDER 1-1-1

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on July 21, 2006

Signature Debbie Sams

Typed or printed name Debbie Sams

Application Number	Filed
09/911,139	July 23, 2001
First Named Inventor	
Ruediger Bauder	
Art Unit	**Examiner**
2631	Khanh C. Tran

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☑ attorney or agent of record.
Registration number 48,981

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

J. Joel Justiss
Signature

J. Joel Justiss
Typed or printed name

972-480-8800
Telephone number

July 21, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ATTORNEY DOCKET NO. BAUDER 1-1-1 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Ruediger Bauder, *et al.*
Serial No.:	09/911,139
Filed:	July 23, 2001
Title:	DIGITAL PREDISTORTION TECHNIQUE FOR WCDMA WIRELESS COMMUNICATION SYSTEM AND METHOD OF OPERATION THEREOF
Grp./A.U.:	2631
Examiner:	Khanh C. Tran

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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(Signature of the person signing the certificate)

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

The Applicants have carefully considered this application in connection with the Examiner's Final Rejection mailed May 30, 2006, and respectfully request a pre-appeal brief review of this application in view of the following remarks.

REMARKS/ARGUMENTS

The Applicants originally submitted Claims 1-20 in the application. Previously, the Applicants amended Claims 1, 8 and 15. Claims 1-20 are currently pending in the application.

I. Rejection of Claims 1, 4-6 and 8-13 under 35 U.S.C. §103

The Examiner has rejected Claims 1, 4-6 and 8-13 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,141,390 to Cova in view of U.S. Patent No. 6,275,685 to Wessel, *et al.*, and in further view of U.S. Patent No. 6,054,896 to Wright, *et al.* The Applicants respectfully disagree.

As the Examiner is no doubt aware, determination of obviousness requires consideration of the invention considered as a whole; the inquiry is not whether each element exists in the prior art, but whether the prior art made obvious the invention as a whole. Furthermore, there must be some suggestion or teaching in the art that would motivate one of ordinary skill in the art to arrive at the claimed invention; a reference that teaches away from a claimed invention strongly indicates nonobviousness.

Moreover, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.

The cited references, individually or in combination, do not teach or suggest employing a receive chain of a WCDMA transceiver during a training mode to provide a digital compensation signal that is a function of an output of a transmit chain as recited in independent Claims 1 and 8. Instead, Cova, Wessel and Wright disclose transmit chains with dedicated feedback loops. (*See* for example, Figures 4 of Cova and Wessel and Figure 26 of Wright.) The Examiner asserts that one of ordinary skill in the art would have recognized that the feedback loop in Figure 4 of Cova employs a receiver as a feedback loop since the feedback loop would include the same components of a receiver. (*See* Examiner's Final Rejection, page 3.) The Applicants respectfully disagree since this simply discloses that components of a receive chain can be used in a dedicated feedback loop. Cova provides no suggestion that the feedback loop is part of a receive chain nor provides any enablement of employing a receive chain during a training mode. Cova does not recognize advantageously employing a receive chain but instead is concerned with more accurately compensating for power amplifier distortion of a RF transmitter by using a straight inverse modeling scheme. (*See* column 2, lines 60-64.)

The Examiner refers to column 4, lines 42-45 of Cova to assert that one of ordinary skill of the art would recognize that the transmitter in Cova is part of a transceiver. Column 4, lines 42-45 of Cova, however, discloses that the transmitter of Figure 4 is adapted to use as a paging transmitter in a paging system but can be used in other radio frequency applications. (*See* Examiner's Final Rejection, page 2, referring to.) Thus, Cova suggest the transmitter of Figure 4 can be a transmitter in other RF systems besides a paging system but does not suggest that Figure 4 includes any portion of a receive chain. As such, Cova provides no teaching or suggestion of a

transceiver or of a receive chain and does not suggest employing a receive chain during a training mode.

Again, Cova discloses that Figure 4 is a block diagram of a transmitter using a predistortion system employing a feedback loop. (*See* column 3, lines 58-60, column 4, lines 34-36 and 50-54, and Figure 4.) The feedback loop is not a receiver but instead provides the signal that was actually transmitted by the transmitter 400 to the trainer 431 for the predistorter 407. (*See* column 6, lines 64-66 and Figure 4.) Instead of a reeeive train of a transceiver, Figure 4 specifically discloses a dedicated feedbaek loop of the transmitter 400 that receives output signals from the power amplifier and performs the appropriate down conversions thereon and provides the converted output signal to the trainer 431. (*See* column 4, lines 50-54; column 9, lines 49-52; column 18, line 62 to column 19, line 40 for another embodiment of a dedicated feedback loop; and Figures 4, 6 and 15.)

Wright reinforces using a feedback loop but not using a receive chain during a training mode. The Examiner asserts that column 34 of Wright teaches directing a small amount of an output signal to a receiver using a directional coupler as in Figure 26. (*See* Examiner's Final Rejection, page 3.) The Applicants do not find this teaching in the cited section of Wright. On the contrary, Wright teaches using a directional coupler to take a small amount of an RF signal sent to an antenna for transmission and using the small amount of the signal for downconversion. Wright does not teach or suggest the down conversion is performed employing a receive chain. (*See* column 34, lines 24-40.)

Wessel also does not cure this deficiency of Cova. Wessel diseloses a circuit for predistorting a signal. (*See* Wessel, column 2, lines 24-27 and Figure 4.) As in Cova, however, the

predistortion circuit is a feedback circuit of a transmitter. (*See* Wessel, Abstract and Figures 4 and 7.) Wessel makes no teaching or suggestion that the predistortion circuit employs a receive chain of a transceiver. Accordingly, the cited combination of Cova, Wessel and Wright, does not teach or suggest employing a receive chain of a transceiver during a training mode as recited in independent Claims 1 and 8.

Thus, the cited combination fails to teach or suggest each element of independent Claims 1 and 8 and fails to provide a *prima facie* case of obviousness of Claims 1 and 8 and Claims dependent thereon. Additionally, the cited references do not provide a suggestion or teaching to motivate one of ordinary skill in the art to arrive at the claimed invention. Instead, the cited references are directed to transmitters and are being applied with the benefit of hindsight provided by the present invention. Accordingly, the Applicants respectfully request the Review Panel to remove the §103(a) rejection of Claims 1, 4-6 and 8-13 and allow issuance thereof.

Furthermore, the Examiner also recognizes that neither Cova nor Wessel teach or suggest an antenna is disconnected from a transmit chain during a training mode. To cure this deficiency, the Examiner cites Wright and asserts that it would have been obvious for one skilled in the art to combine the teachings of Wright with Cova. (*See* Examiner's Final Rejection, pages 3-5.) Cova, however, is directed to a trainer that monitors the actual data or voice signals being transmitted to implement in a predistortion scheme such that normal data or voice transmissions need not be interrupted. (*See* column 7, lines 8-14.) Wright, on the other hand, discloses various techniques for stimulating analog amplification chains and training compensation circuits when a signal is not being transmitted. (*See* column 4, lines 57-59.) Thus, one skilled in the art would not be motivated to

combine the teaching of Wright with the teachings of Cova since Cova teaches a trainer that operates when signals are **being transmitted** and Wright teaches training compensation circuits that operate when a signal is **not being transmitted**. Wright, therefore, is improperly combined with Cova.

II. Rejection of Claims 2, 3, 7 and 14 under 35 U.S.C. §103

The Examiner rejected Claims 2, 3, 7 and 14 under 35 U.S.C. §103(a) as being unpatentable over Cova and Wessel and in further view of either U.S. Patent No. 6,373,902 to Park, *et al.* (Claim 2), U.S. Patent No. 6,240,144 to Ha (Claim 3) or U.S. Patent No. 6,288,610 to Miyashita (Claims 7 and 14). The Applicants respectfully disagree.

The Applicants do not find where Park, Ha or Miyashita teach or suggest employing a receive chain of a WCDMA transceiver during a training mode to provide a digital compensation signal that is a function of an output of a transmit chain of the transceiver wherein the transceiver's antenna is disconnected from the transmit chain during the training mode as recited in independent Claims 1 and 8. Furthermore, neither Park, Ha nor Miyashita has been cited to cure the above deficiency of Cova and Wessel but to teach the subject matter of the above designated dependent Claims 2-3, 7 and 14. Accordingly, the cited combinations of Cova, Wessel, Park, Ha and Miyashita fail to teach or suggest each element of independent Claims 1 and 8, and do not provide a *prima facie* case of obviousness of Claims 2-3, 7 and 14 which depend thereon. The Applicants, therefore, respectfully request the Review Panel to remove the §103(a) rejection of Claims 2-3, 7 and 14 and allow issuance thereof.

III. Rejection of Claims 15-20 under 35 U.S.C. §103

The Examiner rejected Claims 15-20 under 35 U.S.C. §103(a) as being unpatentable over Cova and Wessel in further view of Park, Ha and Wright. The Applicants respectfully disagree.

As discussed above regarding independent Claims 1 and 8, the Applicants do not find in Cova, Wessel, Park, Ha or Wright, a teaching or suggestion of employing a receive chain of a WCDMA transceiver during a training mode to provide a digital compensation signal that is a function of an output of a transmit chain of the transceiver wherein the transceiver's antenna is disconneeted from the transmit chain during the training mode as also recited in independent Claim 15. Aecordingly, the cited combination of Cova, Wessel, Park, Ha and Wright fails to teach or suggest each element of independent Claim 15, and does not provide a *prima facie* case of obviousness of Claim 15 and Claims 16-20 that depend thereon. Additionally, the cited combination of Wright with Cova is improper. The Applicants, therefore, respectfully request the Review Panel to remove the §103(a) rejection of Claims 15-20 and allow issuance thereof.

IV. Conclusion

In view of the foregoing remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-20.

The Applicants request the Reviewers to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

HITT GAINES, PC

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Dated: July 21, 2006

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